

Figures and Captions

Figure 1: Annular Eclipse Coverage Paths

Credit: BBC *Sky at Night* magazine <http://tiny.cc/8hjivz>

Figure 2: Annular Eclipse Geometry

Diagram not to scale: Credit: National Japanese Astronomical Observatory, Tokyo

Figure 3: Partial Eclipse View from my Backyard

My sky was obscured by clouds so I only had a few fleeting views, but managed to get one good telephoto “Pac-Man” photograph that also caught a couple of large sunspot groups.

Figure 4: Regions of the Ionosphere

Credit: Encyclopaedia Britannica <http://tiny.cc/rctivz>

Figure 5: Solar Eclipse Effects on Received 40m WSPR Signals

Analysis of my 40 m received WSPR signals for the day and times before, during and after the annular solar eclipse. At 1800 UTC, each day: 4 spots/max range 697 km, 14 spots/max range 916 km (annular solar eclipse) and 6 spots/max range 718 km.

Credit: <https://wspr.live>

Figure 6: Measuring WWV Carrier Ionospheric Induced Doppler Shifts

Example using the fldigi FMT module to monitor the WWV 15 MHz carrier at one second intervals with real-time plotting over two hours (option to save data to CSV files). The insert explains the ionosphere’s Doppler frequency shift effects. Credit: Insert Case Western Reserve University ARC (W8EDU), Cleveland.

Figure 7: Using Spectrum Laboratory to Observe Solar Eclipse Effects

KO6BLM’s, plots of the WWV 2.5 MHz carrier’s signal-to-noise ratios (SNR) for the day before and day of the annular solar eclipse (partial for him, too). Credit: Ed Holland, KO6BLM.